SUMMIT ENGINEERING, INC.

September 11, 2009

Dan Juett, KPDES Section
Inventory & Data Management Section
KPDES Branch, Division of Water
14 Reilly Road
Frankfort, Kentucky 40601-1190

RE: Apex Energy, Inc.
DNR Permit No. 898-0712
Original Application

Dear Mr. Juett:

As per the telephone discussion on 09-11-09 the effluent characteristics data sheet has now been corrected.

If you should have any questions concerning this application, please contact me at our Virginia office at 276/530-7220.

Sincerely,

Scott Arnold
Project Manager

PO BOX 40 BIG ROCK, VIRGINIA 24603 ▲ 276/530-7220 ▲ FAX 276/530-7280

KPDES FORM HQAA

Kentucky Pollutant Discharge Elimination System (KPDES)

High Quality Water Alternative Analysis

The Antidegradation Implementation Procedures outlined in 401 KAR 5:030, Section 1(3)(b)5 allows an applicant who does not accept the effluent limitations required by subparagraphs 2 and 3 of 5:030, Section 1(2)(b) to demonstrate to the satisfaction of the Environmental and Public Protection Cabinet that no technologically or economically feasible alternatives exist and that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water is located. The approval of a POTW's regional facility plan pursuant to 401 KRS 5:006 shall demonstrate compliance with the alternatives analysis and socioeconomic demonstration for a regional facility. This demonstration shall also include this completed form and copies of any engineering reports, economic feasibility studies, or other supporting documentation

I. Permit Information

Facility Name:	Apex Energy, Inc. (P. N. 898-0712)	**KPDES NO.:**	KYG046301
Address:	24044 State Highway, 194E	**County:**	Pike
City, State, Zip Code:	Fedscreek, Kentucky 41524	**Receiving Water Name:**	Panther Branch of Peter Creek

II. Alternatives Analysis

	Yes	No
1. Has discharge to other treatment works been investigated? (If yes, then indicate which treatment works were considered and the reasons why that discharge to these works is not feasible.)	☒	☐

Alternative treatment works have been investigated. The nearest water treatment system is the Williamson Water Department's system approximately 35 miles away. It would cost approximately $2,796,000 (184,800 feet of pipe and pumps) to collect and gather the discharge. (This is composed of $15.00 per foot and $24,000.00 for a pump station.) It would cost an additional $3,696,000.00 to send the discharge to the Williamson treatment plant. (This would cost approximately $20.00 per foot with piping and right of way requirements.) Also, due to the topography of the area, several additional pump stations would have to be constructed and would bring these costs up even more. The Williamson treatment plant would require a sedimentation basin to remove the silt before allowing it to enter the plant. In addition, the Williamson plant is not setup for reoccurring high volume sediment. Another option for transport to the Williamson plant would involve the use of self-contained disposal trucks, which would be excessively expensive. With this said, it would take approximately 83 self-contained disposal truck loads per day to remove the sediment. Also, insurance and the cost of gas for said disposal trucks would be excessively expensive. The dollar amount for said disposal trucks to remove 83 loads of sediment per day would be approximately $261,450.00.

Discharges will be the result of stormwater and drainage from the mine site. The stormwater will be received by Panther Branch of Left Fork of Peter Creek of Tug Fork River.

	Yes	No
2. Have other discharge locations been evaluated? (If yes, then indicate what other discharge locations have been evaluated and the reasons why these locations are not feasible.)	☒	☐

Alternate stream locations for the pond and dugouts will still discharge into Peter Creek and Tug Fork River ultimately. Therefore, alternate locations will have no less environmental effect. Sites within the watershed boundary were deemed impractical due to existing land use, public safety, accessibility and/or right of entry. Also, these sites would not meet the criteria for a material storage area for this permit. To collect and gather the discharges is also cost prohibitive as it would cost approximately $2,796,000.00 to do so. Due to the topography the discharges could not feasibly be transported to other drainageways. The streams adjacent to Panther Branch are Grassy Branch and Rockhouse Fork. There is no advantage to pumping to any of the mentioned adjacent streams, being they also discharge into Peter Creek. The closest drinking water intake is at Matewan which is approximately 20 mile(s) away.

FORM NOI-CM

Effluent Characteristics Data Sheet

Outfall No. P-1	**Latitude:** 37° 27' 18"		**Longitude:** 82° 08' 44"	**Receiving Water:** Panther Branch of Left Fork of Peter Creek	
Pollutant or Pollutant Characteristic	**Value**	**Units**	**Sample Type**	**Analytical Method Used**	**Method Detection Level**
Total Suspended Solids	5	mg/L	Grab	SM 2540 D	2.0 mg/L
Flow	0.01224	MGD	Flow	Field	N/A
Ph	6.8	Standard Units	Grab	SM 4500-H B	N/A
Hardness (as mg/l $CaCO_3$)	452	mg/L	Grab	SM 2340C	2.0 mg/L
Sulfate (as SO_4)	298	mg/L	Grab	SM 4500-SO_4^{2-} E	1.0 mg/L
Total Recoverable Aluminum	0.784	mg/L	Grab	SM 3500 Al	0.002 mg/L
Total Recoverable Iron	0.25	mg/L	Grab	SM 3111 B	0.02 mg/L
Total Recoverable Manganese	0.04	mg/L	Grab	SM 3111 B	0.02 mg/L
Total Recoverable Antimony	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Arsenic	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Beryllium	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Cadmium	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Chromium	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Copper	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Lead	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Mercury	16.5×10^{-5}	mg/L	Grab	EPA 245.7	1.8×10^{-5} mg/L
Total Recoverable Nickel	0.002	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Selenium	0.008	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Silver	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Thallium	0.002 *	mg/L	Grab	EPA 200.8	0.002 mg/L
Total Recoverable Zinc	0.028	mg/L	Grab	EPA 200.8	0.002 mg/L
Free Cyanide	0.02 *	mg/L	Grab	SM 4500 CN CE	0.02 mg/L
Total Phenols	0.05 *	mg/L	Grab	EPA 420.1	0.05 mg/L
Conductivity	865	µmho/cm	Grab	EPA 2510 B	5 µS/cm

*** Result was below detection limit – Reported Value is the detection limit**

Instructions

Outfall Number:	Provide the outfall number. (use following naming convention -KYG04XXXX-XXX)
Latitude:	Provide the latitude of the discharge point or sample point.
Longitude:	Provide the longitude of the discharge point or sample point.
Receiving Water:	Provide the name of the receiving water discharged to or sampled
Where sample was collected:	Check either sediment structure or in-stream
Value:	Report the numerical results of the analysis for the pollutant or pollutant characteristic
Units:	Indicate the units, i.e. mg/l, MGD, standard units, °F, etc.
Sample Type:	Indicate how the sample was collected, i.e. grab, composite, weir, instantaneous, etc.
Analytical Method:	Indicate the EPA test method used for analysis of the pollutant or pollutant characteristic
Method Detection Level:	Indicate the MDL for the EPA test method used.

(Attach additional pages if necessary

(Continued on Back Page)